

ABSTRACT

5 A permanent magnet field small DC motor comprising an arc-shaped rare earth magnet of maximum thickness 1mm or less fabricated by compression molding from rare earth iron based melt-spun flakes and a binder. The magnet is provided with a certain specific portion at both ends in the circumferential direction, which has no back yoke when the magnet is press-fit in a soft-magnetic frame. The arc-shaped rare earth magnet fabricated by compression molding from a material containing more rare earth iron based melt-spun
10 flakes exhibits simultaneous increase of both a remanence B_r as a function of magnetizing field and a coercivity H_{cB} and hence, exhibits a well-balanced demagnetization (B-H) curve even in an unsaturated magnetized state.